REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claims 1 and 9 were pending in this application when examined.

Claim 1 has been amended to recite an organic EL device comprising "an organic layer of a single-layer sandwiched between a pair of electrodes, the organic layer containing an organic EL dye..." Support for this amendment can be found on page 9, lines 5-10 of the specification.

Claim 9 has been cancelled without prejudice or disclaimer.

I. Claim Rejection Under 35 U.S.C. § 112

The Examiner rejects claim 9 under 35 U.S.C. § 112, second paragraph, for lacking antecedent basis. This rejection is moot in view of the cancellation of claim 9.

II. Claim Rejections Under 35 U.S.C. § 103

The Examiner rejects claim 1 under 35 U.S.C. §103(a) as being unpatentable over Li et al. (US 2004/0219387) in view of VanSlyke et al. (US 4,720,432) and Tashiro et al. (US 5,059,863). As applied to the amended claim, Applicant respectfully traverses the rejection.

Claim 1 is directed to an organic EL device comprising **an organic layer of a single-layer sandwiched between a pair of electrodes**, the organic layer containing an organic EL dye formed by linking a light-emitting group Y represented by the formula $(Y\text{-}L)_nX_m$ to a charge-transporting group X, wherein X represents a charge-transporting group, which is **a hole-transporting group consisting of an anthracene group, or an electron transporting group consisting of a naphthalenediimide group or a phenyldiimide group, and Y represents a light-emitting group consisting of oxadiazolopyridine derivatives**.

Li et al. do not disclose or suggest "an organic EL dye formed by linking a light-emitting group Y represented by the formula $(Y\text{-}L)_nX_m$ to a charge-transporting group X", wherein X and Y are as defined in claim 1.

The Examiner asserts that "Li et al. discloses an organic EL device comprising just the substrate, anode, light-emitting layer and cathode in that order (Fig. 1, [0020]) as a possibility" (see Office Action, page 6, item 2).

Li et al. do not disclose or suggest anthracene as a host material (see paragraph [0018]). Furthermore, the reference does not disclose or suggest guest moieties except for stilbenyl groups, fluorenyl groups and nitrogen containing ligands chelated with transition metals, rare earth metals or lanthanide metals (see paragraph [0020]).

The Examiner asserts that it would have been obvious for X to be anthracene in view of Li et al. and VanSlyke et al. One of ordinary skill in the art would not have any reason or motivation to combine the references, and would not have had any reasonable expectation of success of arriving at the claimed organic EL device from the disclosures of the references.

VanSlyke et al. disclose an electroluminescent device comprising in sequence, an anode, an organic hole injecting and transporting zone, an organic electron injecting and transporting zone, and a cathode (see col. 3, lines 26-36). The reference further discloses "Any conventional **electron injecting and transporting compound** or compounds can be employed in forming the layer of the organic luminescent medium adjacent the cathode. This layer can be formed by historically taught luminescent materials, such as anthracene, naphthalene..." (see col. 9, lines 37-42) (emphasis added).

Accordingly, the reference teaches to use anthracene as an electron injecting and transporting compound in an EL device comprising an anode, an organic hole injecting and transporting zone, an organic electron injecting and transporting zone, and a cathode. The reference does not disclose or suggest to use anthracene as "a hole-transporting group", as recited in claim 1.

Furthermore, it is general knowledge to employ a multilayer structure, as disclosed in VanSlyke et al., in order to use anthracene as an emissive material, rather than as a hole-transporting group.

Therefore, one of ordinary skill in the art would not have been motivated to combine the references, and would not have had any reasonable expectation of success of arriving at the claimed invention from the disclosures of the references.

Tashiro et al. disclose an EL devise comprising in sequence, a substrate 1, a conductive layer 2a, a hole injection transport layer 3, a luminescent layer 4 and a conductive layer 2b (see Fig. 1). The reference further teaches to use oxadiazolopyridine derivatives (9) for the luminescent layer 4, and discloses that "This layer plays a role of transporting an electron from the conductive layer 2*b* towards the hole injection transport layer 3 and a role of emitting light

upon the recombination of the hole and the electron, simultaneously" (see col. 4, lines 7-11).

Furthermore, it is general knowledge to employ a multilayer structure, as disclosed in Tashiro et al., in order to use the oxadiazolopyridine derivatives (9) as an emissive material.

Accordingly, there would have been no reason or motivation for a person skilled in the art to combine Li et al. with VanSlyke et al. and Tashiro et al.

Furthermore, the claimed invention has superior and unexpected results over the cited references. None of the references disclose or suggest that a single-layer organic EL device can emit light at a low voltage equivalent to or at a lower voltage than that of a device of a conventional multi-layer structure.

Table 1 and Table 2 of the present specification show that a single-layer LED, as in the presently claimed invention, initiated light emission at a low voltage of 3-5 V, and had an illuminance of 1000 cd/cm^2 at an applied voltage of 9 V.

Furthermore, Li et al. only disclose the possibility of single-layer LED, and do not provide an example of a single-layer LED (see paragraph [0055]). Tashiro et al. only disclose the data of the illuminance of a multi-layer LED (see Tables 1, 2 and 3), and that the driving voltage is between 14-16 V. VanSlyke et al. only disclose data of the illuminance of a multi-layer LED (see Examples 1-15).

Accordingly, none of the references disclose or suggest an organic EL device comprising "**an organic layer of a single-layer sandwiched between a pair of electrodes**", as recited in claim 1.

Therefore, claim 1 would not have been obvious over Li et al. in view of VanSlyke et al. and Tashiro et al., and would not have had any reasonable expectation of success of arriving at the claimed invention from the disclosures of the references.

The Examiner rejects claim 9 under 35 U.S.C. §103(a) as being unpatentable over Li et al. in view of VanSlyke et al., Tashiro et al. and Nakatsuka et al. (JP 2003-151778). This rejection is moot in view of the cancellation of claim 9.

Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

III. Information Disclosure Statement

Applicant submits herewith an Information Disclosure Statement, and respectfully requests the Examiner to consider the reference cited on the PTO/SB/08 form and return an Examiner-initialed copy of the form to Applicant's attorney.

IV. Conclusion

For these reasons, Applicant takes the position that the presently claimed invention is clearly patentable over the applied references.

Therefore, in view of the foregoing amendments and remarks, it is submitted that the rejections set forth by the Examiner have been overcome, and that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

Shinichiro ISOBE

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